

WHAT IS CLAIMED IS:

1. A method of analyzing a fringe image having separate regions, in which a fringe image carrying information of an object to be observed is analyzed so as to obtain said information of said object, said fringe image being constituted as an assembly of a plurality of separate independent fringe image regions, said method comprising the steps of:

providing a mask to a gap separating said plurality of fringe image regions from each other;

rendering a virtual fringe distribution to thus obtained mask region so as to yield a single continuous fringe image region;

analyzing the whole surface of thus obtained single fringe image region by use of a predetermined fringe analysis method; and

deleting information of said mask region from information of said single fringe image region obtained by said whole surface analysis, so as to yield desirable information of said fringe image.

2. A method of analyzing a fringe image having separate regions according to claim 1, wherein said mask corresponding to a gap for separating said plurality of fringe image regions from each other is formed by rendering a threshold to a modulation of said fringe image captured by imaging means, binary-coding said fringe image according to said threshold, preparing a blurred image by averaging each pixel of said binary-coded image and a pixel in the vicinity thereof, and setting a mask threshold thereafter according to a brightness of said blurred image.

3. A method of analyzing a fringe image having separate regions according to claim 1, wherein said fringe image is a fringe image obtained by a lightwave interferometer.

4. A method of analyzing a fringe image having separate regions according to claim 1, wherein said fringe image is a fringe image obtained by a moiré profilometer.

5. A method of analyzing a fringe image having separate regions

according to claim 1, wherein said object to be observed is a measurement member having a slit per predetermined pitch.

6. A method of analyzing a fringe image having separate regions according to claim 2, wherein processing of said blurred image is omitted when said fringe image has a favorable contrast.

7. A method of analyzing a fringe image having separate regions according to claim 2, wherein processing for providing said mask is manually carried out while observing said fringe image.

8. A method of analyzing a fringe image having separate regions according to claim 1, wherein said threshold in modulation of said fringe image is set by a distribution graph of modulation prepared according to maximum and minimum values of said modulation of fringe image determined over the whole surface of means for displaying said fringe image, and a modulation value yielding the lowest modulation distribution while being located in the vicinity of zero in a differentiation graph determining a change ratio in said distribution graph of modulation.

9. A method of analyzing a fringe image having separate regions according to claim 1, wherein a boundary position of said mask provided so as to correspond to said gap for separating said plurality of image regions from each other is determined by binary-coding said blurred image with said mask threshold, and then carrying out partial differentiation of a brightness of each point while scanning the whole surface of means for displaying thus binary-coded image in a scanning direction and/or a direction orthogonal to said scanning direction, so as to determine a point of change in brightness.

10. A method of analyzing a fringe image having separate regions according to claim 1, wherein said virtual fringe distribution is rendered to said gap for separating said plurality of fringe image regions from each other by providing said mask to said fringe image and determining a brightness of said fringe image at a boundary position of said mask and another boundary position opposite thereto in a scanning direction over the whole surface, determining a gradient of brightness

between each pair of boundary positions from thus determined brightness, and providing a brightness having said gradient distribution between boundary positions corresponding to each pair of said masked boundary positions for complement.

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